



FORM PTO-1449 (SUBSTITUTE)	Attorney Docket No.: S&ZFH030508	Applic. No. 10/727,801
U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE	Applicant Detlef Marpe, et al.	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (37 CFR 1.98(b))	Filing Date December 4, 2003	Group Art Unit 2819

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

JB JG	Ref 1.01: Title: Draft ITU-T Recommendation and Final Draft International Standard Joint Video Specification (ITU-T Rec. H.264/ISO/IEC 14496-10 AVC). From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-250. 7-14 March 2003.
JB JZ	Ref 1.02: Title: Overview of the H.264/AVC Video Coding Standard. Author: Thomas Wiegand, Gary J. Sullivan, Senior Member, IEEE, Gisele Bjontegaard, and Ajay Luthra, Senior Member, IEEE. Pages: 560-576, Vol 13, No 7, July 2003.
JB JZ	Ref 1.03: Title: Information Technology-Generic Coding Moving Pictures and Associated Audio Information: Video. From: International Standard 13818-2 Recommendation ITU-T H.26. Pages: 1-224. (no date)
JB JZ	Ref 1.04: Title: Draft Text of Recommendation H.263 Version 2 ("H.263+") for Decision. From: International Telecommunication Union. Pages: 1-143. 1997-2000 (no month)
JB JZ	Ref 1.05: Title: Information Technology-Coding of Audio Visual Objects-Part 2: Visual. From: International Organization for Standardization Organization International Normalization ISO/IEC JTC1/SC29/WG 11 Coding of Moving Picture and Audio. Pages: 1-526. July 2001
JB JZ	Ref 1.06: Title: DCT Coding for Motion Video Storage Using Adaptive Arithmetic Coding. Author: C.A. Gonzalez, L. Allman, T. McCarthy, P. Wendt. Pages: 145-154, 1990 (no month)
JB JZ	Ref 1.07: Title: Adaptive Codes for H.26L. From: ITU - Telecommunications Standardization Sector. Pages: 1-7 9-12 Jan. 2001
JB JZ	Ref 1.08: Title: Further Results for CABAC Entropy Coding Scheme. From: ITU -Telecommunications Standardization Sector. Pages: 1-8.

2-4 April 2001

JB JV		Ref 1.09: Title: Improved CABAC. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-6. <i>JAN 29 - Feb 1 2002</i>
		Ref 1.10: Title: New Results in Improved CABAC. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-12. <i>MARCH 2002</i>
		Ref 1.11: Title: Improved CABAC. From: ITU-Telecommunications Standardization Sector. Pages: 1-9. <i>4-6 Dec 2001</i>
		Ref 1.12: Title: Fast Arithmetic Coding for CABAC. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-11. <i>1995 (no month)</i>
		Ref 1.13: Title: CABAC and Slices. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-17. <i>July 2002</i>
		Ref 1.14: Title: Analysis and Simplification of Intra Prediction. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). <i>July 2002</i>
		Ref 1.15: Title: Proposed Cleanup Changes for CABAC. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-7. <i>OCT 2002</i>
		Ref 1.16: Title: CABAC Cleanup and Complexity Reduction. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-20. <i>OCT 2002</i>
		Ref 1.17: Title: Final CABAC Cleanup. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-24, <i>Dec. 2002.</i>
		Ref 1.18: Title: Very Low Bit-Rate Video Coding Using Wavelet-Based Techniques. Author: Detlev Marpe and Hans L. Cycon. <i>Vol 9, No. 1, Feb. 1999</i> Pages: 85-94
		Ref 1.19: Title: Wavelet-Based Very Low Bit-Rate Video Coding Using Image Warping and Overlapped Block Motion Compensation. Author: G. Heising, D. Marpe, H.L. Cycon and A.P. Petukhov. <i>April 2001</i> Pages: 93-101
		Ref 1.20: Title: Motion-Compensated 3-D Subband Coding of Video. Author: Seung-Jong Choi and John W. Woods, Fellow IEEE. <i>Vol 8, No 2, February 1999.</i> Pages: 155-167
		Ref 1.21: Title: A New Fast and Efficient Image Codec Based on Set Partitioning in Hierarchical Trees*. Author: Amir Said (Faculty of Electrical Engineering) and William A. Pearlman (Department of Electrical, Computer, and Systems Engineering Rensselaer Polytechnic Institute). <i>May 1993.</i> Pages: 1-15
JB JV		Ref 1.22: Title: Efficient Pre-Coding Techniques for Wavelet-Based Image Compression. Author: Detlev Marpe & Hans L. Cycon. Pages:

		45-51. (N = date)
JBZ		Ref 1.23: Title: Universal Modeling and Coding. Author: Jorma Rissanen and Glen G. Langdon, Jr., Senior Member, IEEE. Pages: 12-23, Vol 27, No 1, January 1981.
		Ref 1.24: Title: Universal Coding Information, Prediction, and Estimation. Author: Jorma Rissanen, Vol 30, No 4 July, 1984. Pages: 629-636.
		Ref 1.27: Title: Applications of Universal Context Modeling to Lossless Compression of Grey-Scale Images. Author: Marcelo J. Weinberger, Member, IEEE, Jorma J. Rissanen, Senior Member, IEEE, and Ronald B. Arps. Pages: 575-586, Vol 5, No 4, April 1996.
		Ref 1.29: Title: A Compression Method for Clustered Bit-Vectors. Author: Jukka Teuhola (Department of Computer Science, University of Turku). Application: XP-001000934. Oct 1978
		Ref 1.30: Title: Optimal Source Codes for Geometrically Distributed Integer Alphabets. Author: Robert G. Gallager, fellow, IEEE, David C. Vanvoorhis, member, IEEE. Pages: 228-230, March 1975.
		Ref 1.32: Title: An Overview of the Basic Principles of the Q-Coder Adaptive Binary Arithmetic Coder. Author: W.B. Pennebaker, J.L. Mitchell, G.G. Langdon, Jr., and R.B. Arps, Vol 32, No 6, Nov 1988. Pages: 717-726.
		Ref 1.31: Title: A Context Modeling Algorithm and its Application in Video Compression. Author: Marta Mrak, Detlev Marpe, and Thomas Wiegand. (N = date)
		Ref 1.33: Title: A Multiplication-Free Multialphabet Arithmetic Code. Author: Jorma Rissanen and K.M. Mohiuddin, Vol 37, No 2, Feb 1989. Pages: 93-98.
		Ref 1.34: Title: Practical Implementations of Arithmetic Code. Author: Paul G. Howard and Jeffrey Scott Vitter. Pages: 1-30. Oct 16-18, 1991
		Ref 1.35: Title: Sample Data Coding. From: Chapter 12. Pages: 474-484. (N = date)
		Ref 1.37: Title: Arithmetic Code Revisited. Author: Alistair Moffat (The University of Melbourne), Radford M. Neal (University of Toronto), and Ian H. Witten (the University of Waikato), Vol 16, No 3, July 1998. Pages: 256-294.
JBZ		Ref 1.38: Title: Rate-Constrained Coder Control and Comparison of Video Coding Standards. Author: IEEE Transactions on Circuits and Systems for Video Technology, Vol. 13, No. 7, July 2003. Thomas Wiegand, Heiko Schwarz, Anthony Joch, Faouzi Kossentini, Senior Members, IEEE, and Gary J. Sullivan, Senior Member, IEEE. Vol 13, No 7, July 2003. Pages: 689-703.

JBZ		Ref 2.1: Title: Draft ITU-T Recommendation and Final Draft International Standard of Joint Video Specification (ITU-T rec. H.264 I ISO/IEC 14496-10 AVC). From: Joint Video Team (JVT) of SO/IEC MPEG & ITU-T VCEG (ISO/IEC JTC1/SC29/WG11 and ITU-T SG 16 Q.6). Pages 1-249. 7-14 March 2003.
		Ref 2.03x: Title: Line Transmission of Non-Telephone Signals / Video Codec for Audiovisual Services AT p x 64 kbit/s. From: International Telecommunication Union H.261. Pages: 1-25, June 1994.
		Ref 2.06x: Title: H.264/AVC Over IP. From: Stephan Wenger. Pages: 645-656. Vol 13, No 7, July 2003.
		Ref 2.07: Title: H.264/AVC in Wireless Environments. Author: Thomas Stockhammer, Miska M. Hannuksela, and Thomas Wiegand. Pages: 657-673. Vol 13, No 7, July 2003
		Ref 2.08: Title: Motion-and Aliasing-Compensated Prediction for Hybrid Video Coding. Author: Thomas Wedi and Hand Georg Musmann. Pages: 577-586, Vol 13, No 7, July 2003
		Ref 2.9: Title: Long-Term Memory Motion-Compensated Prediction. Author: Thomas Wiegand, Xiaozheng Zhang, and Bernd Girod, Fellow, IEEE. Pages: 70-84. Vol 9, No 1, Feb. 1999.
		Ref 2.11: Title: A Locally Optimal Design Algorithm for Block-Based Multi-Hypothesis Motion-Compensated Prediction. Author: Markus Flierl, Thomas Wiegand, and Bernd Girod Telecommunications Laboratory University of Erlangen-Nürnberg, Germany. Pages: 1-10, March 1998.
		Ref 2.12: Title: Generalized B Pictures and the Draft H.264/AVC Video-Compression Standard. Author: Markus Flierl, Student Member, IEEE, and Bernd Girod, Fellow, IEEE. Pages: 587-597, Vol 13, No 7, July 2003.
		Ref 2.13: Title: Rate-Constrained Coder Control and Compression of Video Coding Standards. From: Thomas Wiegand, Heiko Schwarz, Anthony Joch, Faouzi Kossentini, Senior Member, IEEE, and Gary J. Sullivan, Senior Member, IEEE. Pages: 688-703, Vol 13, No 7, July 2003
		Ref 2.14: Title: H.264/AVC Over IP. Author: Stephan Wenger. Pages: 645-656, Vol 13, No 7, July 2003
		Ref 2.15: Title: The SP-and Si-Frames Design for H.264/AVC. Author: Marta Karczewicz and Ragip Kurceren, Member, IEEE. Pages: 637-644, Vol. 13, No 7, July 2003.
↓		Ref 2.16: Title: Context-Based Adaptive Binary Arithmetic Coding in the H/264/AVC Video Compression Standard. Author: Detlev Marpe, Member, IEEE, Heiko Schwarz, and Thomas Wiegand. Pages: 620-636, Vol 13, No 7, July 2003
JBZ		Ref 2.17: Title: Low-Complexity Transform and Quantization in

JTB		H.264/AVC. From: Henrique S. Malvar, Fellow, IEEE, Antti Hallapuro, Marta Karczewicz, and Louis Kerofsky, Member, IEEE. Pages: 598-603, Vol 13, No 7, July 2003
		Ref 2.18: Title: Adaptive Deblocking Filter. Author: Peter List, Anthony Joch, Jani Lainema, Gisle Bjontegaard, and Marta Karczewicz. Pages: 614-619, Vol 13, No 7, July 2003.
		Ref 2.19: Title: A Generalized Hypothetical Reference Decoder for H.264/AVC. Author: Jordi Ribas-Cobrerá, Member, IEEE, Philip A. Chou, Senior Member, IEEE, and Shankar L. Regunathan. Pages: 674-687, Vol 13, No 7, July 2003.
		Ref A: Title: Draft ITU-T Recommendation and Final Draft International Standard of Joint Video Specification (ITU-T Rec. zh.264 ISO/IEC 14496-10 AVC). From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO.IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-253, 23-27 May 2003.
		Ref B: Title: A Highly Efficient Multiplication-Free Binary Arithmetic Coder and its Application in Video Coding. Author: Detlev Marpe and Thomas Wiegand. Pages: 1-4, 2003. 14-17 Sept 2003.
		Ref C: Title: Proposed Editorial Changes and Cleanup of CABAC. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO.IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-10 _A 22-26 July 2002,
		Ref D: Title: Study of Final Committee Draft of Joint Video Specification (ITU-T Rec. H.264 ISO/IEC 14496-10 AVC). From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO.IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-239. 5-13 Dec 2003.
		Ref E: Title: Study of Final Committee Draft and Joint Video Specification (ITU-T Rec. H.264 ISO/IEC 14496-10 AVC). From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO.IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-227, 5-13 Dec. 2002
JTB		Ref F: Title: CABAC and Slices. From: Joint Video Team (JVT) of ISO/IEC MPEG & ITU-T VCEG (ISO.IEC JTC1/SC29/WG11 and ITU-T SG16 Q.6). Pages: 1-17. 22-26 July 2002.
EXAMINER Pearl Bruner Jean Claude	DATE CONSIDERED 3/04/05	
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.		
FORM PTO-1449 (SUBSTITUTE) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (37 CFR 1.98(b))		Attorney Docket No.: S&ZFH030508 Applic. No. 10/727,801 Applicant Detlef Marpe, et al. Filing Date Group Art Unit

	December 4, 2003	2819
--	------------------	------



Sheet 1 of 1

U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE INFORMATION DISCLOSURE STATEMENT BY APPLICANT (37 CFR 1.98(b))	Attorney Docket No.: S&ZFH030508 Applicable No.: 10/727,801 Applicant: Detlef Marpe et al. Filing Date: December 4, 2003 Group Art Unit: 2819
----------------------------------------------------------------------------------------------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

U.S. PATENT DOCUMENTS

EXAMINER INITIALS		PATENT NO.	DATE	PATENTEE	CLASS	SUB CLASS	FILING DATE
<i>JBJZ</i>	A	5,592,162	01/07/97	Printz et al.	—	—	—
	B						
	C						
	D						
	E						
	F						
	G						
	H						
	I						

FOREIGN PATENT DOCUMENT

		DOCUMENT NO.	DATE	COUNTRY	CLASS	SUB CLASS	TRANSL. YES	NO
	J							
	K							
	L							
	M							
	N							

OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, etc.)

<i>JBJZ</i>	O	Dan Chevion et al.: "High Efficiency, Multiplication Free Approximation of Arithmetic Coding", <i>IEEE</i> 1991, Order No. TH0373-1/91/0000/0043/\$01.00, pp. 43-52. <i>8-11 April 1991</i>
<i>JBJZ</i>	P	David S. Taubman et al.: "JPEG2000 Image Compression Fundamentals, Standards and Practice", <i>Kluwer Academic Publishers, Boston, 2002, pp. 65-77 (1 August 2002)</i>

EXAMINER: <i>Jean Bruner Jean Brunel</i>	DATE CONSIDERED: <i>3/4/05</i>
EXAMINER: Initial if citation considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.	